# 2013 Annual Meeting--National Technical Committee for Hydric Soils Business Meeting Minutes, 5-Rivers conference Center-Blakely Hall Spanish Fort, Alabama; April 17

**Members Present**: Lenore Vasilas (Acting Chair), Wade Hurt, Paul Rodrigue, Chris Noble, Steve Monteith, Steve Lawrence, Tony Jenkins, Aaron Miller

Members Present Business Meeting Only, via Teleconference: Mike Vepraskas, Richard Griffin, Rusty Griffin, Chien-Lu Ping, Larisa Ford, Ralph Spagnolo

Other Participants Present: Jakob Berkowitz, Gerome Langlinais, Sandy Page

Other Participants Present at Field Tour Only (April 16): Mike Lily, Gina Todia, Al Schotz, Lawrence McGhee, Jim Duffy, Jim Seaford, Delaney Johnson.

#### Minutes from 2012

- C. Noble motions to approve minutes from 2012 meeting recorded by A. Miller which include edits by L. Vasilas.
- Unanimous agreement

## Discussion of Field Trip

On Tuesday, April 16<sup>th</sup>, the committee took a field trip to various sites along the Gulf Coast Flatwoods to see problem areas associated with pitcher-plant bog soils. The technical standard was applied to all sites during the period from October 2012 through April 2013. Some laboratory data accompanied the sites. J. Berkowitz presents powerpoint review of field trip to guide us through what we observed.

# Stop 1--MS Sandhill Crane Sanctuary, FWS

- Did not meet hydrology-saturation < 14 days</li>
- No alpha-alpha reaction
- S7 fails due to unmasked grains > 30%
- 0/3 IRIS tubes show positive reaction
- Several meters downhill, S5 indicator was found
- Vegetation mostly obligate and Fac-Wet
- High C/N, low pH
- Perhaps too much slope to stagnate water for period long enough to reduce Fe.

Not Hydric

## Stop 2—Tibbie

- Catena with seep along break.
- Little to no OM at surface here
- High C/N, low fertility
- Low pH
- Some chert fragments (1-2%) as sand grains raise chroma??
- Obligate and Fac-wet plants dominate here
- Waters maybe saturated with ferric Fe from uplands drainage, samples collected for analysis.
- Site A--seep
  - Always wet
  - meets F3 or S5 (depending on texture)
  - o Hydric
- Site B—below seep at footslope
  - Saturated for 24 days
  - Alpha-alpha reaction strong
  - o 2/3 IRIS tubes
  - Technical standard met
  - o No indicator met but TA-16 suggested for use here
- Site C—Below seep at toeslope
  - Saturated < 14 days</li>
  - o Alpha-alpha reaction positive
  - 1/3 IRIS tubes reacted, arguably 0/3.
  - o No indicator met but TA-16 suggested for use here, if hydrology proves positive.

# Stop 3—Splinter Hill Bog

- Catena on gentle slope
- Site A—lower position on slope
  - o 3/3 IRIS tubes positive
  - o Alpha-alpha positive
  - S5 indicator met
  - Hydric
- Site B—higher position on slope
  - Saturation < 14 days</li>
  - o 0/3 IRIS tubes positive

- Alpha-alpha indicator negative
- No hydric indicator met
- TA-16 not usable, < 2% redox visible, below thickness requirement.
- Adjacent pit to site did show more redox.

## Discussion regarding field observations:

- R. Griffin asked about chert minerals regarding grain count. The lab data only shows about 1 to 2% so hard to say whether this adds a lot of chroma to the soil.
- C. Noble mentions that A16 could be used as a test indicator here at the sites where we
  have documented vegetation and hydrology meeting wetland standards without
  adopting the test indicator for use in this area. This procedure is noted in the Regional
  Supplement.
- L. Vasilas states that we don't have enough information here to make changes to indicators.
- S. Monteith mentions that grain counts in MI had upwards of 15% red or dark parent
  materials in addition to some resistant-coated quartz grains. He also mentioned that
  the low pH inhibits reductions along with the poor nutrition slowing microbial activity.
  Saturation may be occurring but reduction is not. The sparcity of organic matter in
  some sites is good evidence, also indicates low food sources.
- A. Miller suggests using MRIS tubes or (gasp) Pt electrodes to monitor the sites.
- C. Noble motions that we allow the A16 to be used as a test indicator here along with veg. and hydro data to apply the indicators to specific sites, thereby avoiding any regionally approved changes to the Indicators.
- Unanimous agreement.
- C. Noble also motions to approve A16 as a test indicator for all coastal plain regions of the US (add LRR P and T).
- Unanimous agreement.

NTCHS recognizes the contribution of the local NRCS team in their work to prepare the field sites and collect all the pertinent data for our field visit. The work was of high quality and the outing was a great success!

# NRCS Information and Updates

#### New England Update

- Still evaluating TA6 Mesic Spodic
- Still evaluating old TF2 Red Parent Material
- Drought last spring caused need for addition time to collect data.

• The committee will try to address these issues when data is submitted later in the spring by e-mail and/or teleconference if possible.

# National Wetlands Conditions Assessment update

- This is an EPA sponsored effort
- NRCS provided all assistance and recommendations and we have fulfilled our duties to this project.
- NRCS developed proposed recommendations on use of the data to create a report on wetland condition to be presented to congress
- Field data has been through all QA review process (NRCS contribution mostly)
- 1200 +/- wetlands were sampled across the US
- Indicators of stressors were developed by NRCS based on:
  - Sediment accumulation
  - Hydrologic alteration
  - Alteration to nutrient cycling and soil biogeochemistry
  - Accumulation of trace elements(metals)
- NRCS will continue to look at other ways to use the NWCA data set for future uses.
- Another round of sampling in 5 years (from 2011)

#### F10 Marl issues in FL

- Data was sent out to committee last week
- Question
  - Why is it necessary to have a value of 5 or more starting within 4 in. (10 cm)?
     Why can't it be darker?
- Dataset was incomplete. We requested more from them so that we could make some sort of informed decision.
- W. Hurt mentions that melaleuca, a fac-dry plant, was growing on the site. Also that this location was dewatered due to history of groundwater pumping. Area is now dry, unlikely to become wet again.
- They want the committee to consider adding darker colors to the marl indicator.
- We need lots more data from them.....
- No changes recommended by the committee at this time

# Soil Data Mart and Web Soil Survey

 Hydric soil report in WSS, 5 categories based on recommendations by the NTCHS established during the committee meeting years ago in NM

- Next version of WSS will reprogram interpretive maps for hydric soils under the reports tab.
- Soil Data Mart lists all soils components and hydric status for map units. When SDM goes away, the same data will be available in WSS.
- A. Miller suggests adding or changing the lower category from 1-33% to 1-15% or 1-10% so that it indicates only minor components are recognized as hydric in the report.

# Nationwide database for national-scale wetlands data (gSSURGO)

- Rasterized version of hydric SSURGO map titled "Potential Wetland Soil Landscapes Map" developed in gSSURGO
- Smaller size file for use in national analysis
- Create a national package of data for wetland scientists
- All data for this map is available to public for download as spatial and tabular SSURGO format national compilation.

# High Carbonate Soil issues

- Request from Nebraska on further development in high carbonate soils indicators.
- High pH (7.8) soils prevents Fe from reducing out of the soils.
- May want to focus on Mn.
- S. Monteith mentions that we have had trouble designing a good Mn paint that will adhere to PVC. More work needs to be done before we release MRIS tubes for use.
- We will suggest to NE that they begin to collect some data this year.

## A12 Thick Dark Surface

- Some comments that the indicator is not dark enough (from Minnesota?)
- South Dakota says A12 should be used only in depressions.
- Indiana has many soils that should be considered eligible for this indicator since that have colors of 3/1 all through the profile. Have offered to collect more data.
- Inquiries and requests are somewhat conflicting to each other. Committee recommends
  that data be collected in these regions and maybe new similar indicators need to be
  developed more specific to each region.

#### S7 Dark Surface Issues

 MN says that adoption of S7 in LRR M is causing soils to make false positives. Data is being collected in the region to show this. The data should be submitted to the committee so that a decision can be made as to whether it was added to LRR M erroneously and should be dropped from the region.

## Local Guidance in upper Midwest

- They are creating local user notes that limit the use of indicators in their areas
- L. Vasilas will put together a list of examples of both valid and invalid user notes that will be allowed and will not change the scope of the indicators. She will send this notice out to the states using these notes.

#### IRIS Tube Issues

- During the webinar Marty Rabenhorst did for use of IRIS tubes there were many questions fielded post-seminar.
- Many questions related to the recommendation by Marty for a 20% removal in a 2 in. zone when the tech. standard requires 30% in a 6 in zone. This new suggestion not supported at this time by the committee.
- Many questioned the 3-week duration protocol
- We recommend not to re-install tubes after they have been pulled.
- It is smart to install a few extra tubes at a site so that one or two can be pulled out to be checked without compromising the data.

# C. Ping update on work in AK

- Two remote sites instrumented in AK
- First site south-central AK has Andic Humicryods and Cryaquods, micro-highs and micro-lows, respectively.
  - Volcanic ash soils
  - o IRIS tubes installed from June to October, 2 years.
  - o IRIS tube-negative in micro-low
  - MRIS tubes installed and also negative
- Second site in Aleutian chain have Haplocryands and Cryaquands, micro-high and microlow, respectively.
  - o Cemented pumice layer at about 45cm
  - o IRIS-positive in micro-highs after 3 weeks
  - MRIS positive in 3 days
- Fe chemistry being further studied at both sites.
- R. Griffin suggested that their alpha-alpha data might not be giving him great results because there is so much Mn left in the system of young soils, reduction never gets to Fe.

## Loophole in Indicator colors

- Depleted Matrix starts at 4 or more
- Dark Surface starts at 4 or less
- Current errata edited the instructions for reading soil color instructs to round to nearest Value and Hue but never round chroma.
- C. Noble suggests editing individual indicators such as the dark surface indicators A11, F6 and F7 to read values <4 instead of rounding to take care of the gap in values.
- C. Ping recommends committee come up with a standardized method of reading color.
- Members agree that at this time errata will go unchanged.

# Updates

#### USACE

- Latest versions of revised 87 manual supplements are stalled due to some issues voiced from the vegetation committee and budget.
- They are expected to make progress on their concerns by next week.
- University Report
  - W. Hurt motions we replace TF12 for Marl regions in FL with new F22-Very Shallow Dark Surface Indicator.

## Replace

TF12. Very Shallow Dark Surface. *For testing in all LRRs.* In depressions and other concave landforms, one of the following:

if bedrock occurs between 15 cm (6 inches) and 25 cm (10 inches), a layer at least 15 cm (6 inches) thick starting within 10 cm (4 inches) of the soil surface with value 3 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has a chroma 2 or less.

if bedrock occurs within 15 cm (6 inches), more than half of the soil thickness must value 3 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has a chroma 2 or less.

With

F22. Very Shallow Dark Surface. For use in MLRA 138 of LRR P, MLRA 154 of LRR U, and West Florida portion of MLRA 152A, LRR P. For testing in all other MLRAs and LRRs. In depressions and flood plains subject to frequent ponding and/or flooding, one of the following:

if bedrock occurs between 15 cm (6 inches) and 25 cm (10 inches), a layer at least 15 cm (6 inches) thick starting within 10 cm (4 inches) of the soil surface with value 2.5 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has a chroma 2 or less.

if bedrock occurs within 15 cm (6 inches), more than half of the soil thickness must have value 2.5 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has a chroma 2 or less.

- o This is basically F6 adapted to very shallow soils over bedrock
- Motion seconded
- o Unanimous Agreement.
- o R. Griffin
  - Continuing Sub-Saharan dust collection research
  - Materials seen with bacteria found in dust linked to respiratory illnesses.
  - Starting to look at the spatial distribution of wetland boundary iron features and manganese features.
- R. Spagnolo EPA updates
  - Mid-Atlantic Issues
    - Proposing anomalous Bright Sandy Soils indicator, ABSS
    - Haven't found enough sites yet to instrument that would provide adequate data.
    - Is there a need to develop ABSS?
    - Could we adapt it to ABLS?
    - Sandy soils would have a lower number of concentrations in indicator therefore if we needed the indicator, it would be separate.
  - o Mid-Atlantic committee looking into Piedmont area
  - Outside Annapolis they have potential glauconitic materials issues.

# University Pedologist needed on committee

Vepraskas has not yet commented on a recommendation

- Currently there are only 4 University members; we need 5 to operate legally.
- We should encourage another University member to join.
- W. Hurt volunteers to do the work to come up with list of nominees for University representation.

# Rusty Griffin—USFW

 NWI budget—no future funding for wetland mapping or regional coordinators seen in near future.

## L. Ford—BLM

• No immediate issues. Taking comments and questions.

## T. Jenkins—NRCS, New England states

- Looking carefully at mesic/frigid line using PRISM data in conjunction with MAST data.
- TA-6—more data is now available, they will propose adoption of the indicator soon.
- ESD development begun in FWS lands in Maine. They are starting with a suite of hydric soils.
- N. England committee feels TF2 communication needs to be improved with regard to approval and review of any decisions made affecting the indicator.
- L. Vasilas reminds us that the changes are available for public review for two years, posted online.
- T. Jenkins would like to see convergence of the New England version of indicators and the official national publication so there is only one version for his region.
- L. Vasilas recommends that if New England has any new indicators, or changes to current ones available, send us documentation for review and we will make any changes that are appropriate.

## A. Miller—NRCS, Southwest states

- NM project statewide to correct any improperly assigned hydric status from components such as miscellaneous land types.
- Will be working soon with the New Mexico Environment Department's Wetland Division to map all the Playa wetlands in the state. We are hoping to learn a lot about playa wetlands in the next few years.
- A. Miller has notified southwestern states that we are available to assist with any hydric soil issues they may have. They are more likely unfamiliar with our committee.
- Rick Strait has purchased several climate stations for NM to be installed at 2-per-LRU around the state. Will gather soil moisture data. Hoping to gather more water-table data in flooded areas.

#### Steve Monteith

- NWCA data (first round) of processing completed by NSSL.
- There will be much interest in analyzing more data from the soil samples. We are working on obtaining more site data for the samples.
- IRIS tube production is tricky; more standardization of the process is needed to maintain consistency in the product.
- Methods have been revised to improve their performance
- They are making a limited run of longer IRIS tubes (100cm) for some users
- Working on development of MRIS tubes. As mentioned, getting the paint to adhere well is not perfected.
- Lab is working on the Color Change Propensity Index for release to public use.

#### C. Noble

 The data loggers used in this field tour are available at this meeting for the committee to observe.

## L. Vasilas

- Last week in June 2013 is the Advanced Hydric course, in Madison, WI.
- Next year it will be held in New Mexico again, will need assistance from A. Miller to put this together.

# M. Vepraskas

- Nothing new to report from last year study on sea-level change, not likely to produce major change in septic-failures map.
- Doing a lot of restoration work with State agencies.
- Will still work on the tech-note for stripped matrix, right now it's not a priority but will get it done eventually.
- He encourages the possibility of agreement with University to fund NTCHS travel through federal cooperation

## Location for 2014 annual meeting

- AK is still a priority for a visit. Need a site visit badly and C. Ping may not be with committee much longer.
- C. Noble proposes a list of top 3-4 potential sites to be decided later this fall when there is less uncertainty in the budget.
- Motion to adopt this list into our annual meeting minutes.
- Unanimous Agreement

List of proposed locations for 2014 annual meeting, in order of priority:

- Alaska
- Connecticut
- Nebraska (carbonate issues)
- Upper Midwestern State

Meeting Adjourned.